

SEQUENCE LISTING

<110> Poustka, et al.

<120> Protein (TP) That is Involved in the Development of the Nervous System

<130> 4121-129

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<150> PCT/DE00/00583  
DE 199 08 423.8

<151> 2000-02-28  
1999-02-26

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<170> PatentIn Ver. 2.0

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Thr Gln Gln Asp Met Gln Ser Ser Leu Ala Ala Arg Tyr Ala Thr Gln	
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Ser Asn His Ser Gly Ile Ala Thr Ser Gln Lys Lys Pro Thr Arg Leu	
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Pro Gly Pro Ser Arg Val Pro Ala Ala Gly Ser Ser Ser Lys Val Gln	
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gga gcc tct aat tta aat agg aga agt cag agc ttt aac agc att gac	239
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Ser	Thr	Leu	Ser	Glu	Arg	Tyr	Thr	Pro	Ser	Ser	Arg	Gln	Ala	Asn	Gln	
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Glu	Glu	Gly	Lys	Glu	Trp	Leu	Arg	Ser	His	Ser	Thr	Gly	Gly	Leu	Gln	
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 Leu Leu Lys Ala Glu Asn Asp Arg Leu Lys Val Ala Pro Gly Pro Ser  
 tca ggc tcc act cca ggg cag gtc cct gga tca tct gca tta tct tcc 142  
 Ser Gly Ser Thr Pro Gly Gln Val Pro Gly Ser Ser Ala Leu Ser Ser  
 cca cgc cgc tcc cta ggc ctg gca ctc acc cat tcc ttc ggc ccc agt 190  
 Pro Arg Arg Ser Leu Gly Leu Ala Leu Thr His Ser Phe Gly Pro Ser  
 ctt gca gac aca gac ctg tca ccc atg gat ggc atc agt act tgt ggt 238  
 Leu Ala Asp Thr Asp Leu Ser Pro Met Asp Gly Ile Ser Thr Cys Gly  
 cca aag gag gaa gtg acc ctc cgg gtg gtg gtg agg atg ccc ccg cag 286  
 Pro Lys Glu Glu Val Thr Leu Arg Val Val Val Arg Met Pro Pro Gln

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aac cta gcc aac cag ata gac cgg gaa aca gga att ggg gat gtg ccc Asn Leu Ala Asn Gln Ile Asp Arg Glu Thr Gly Ile Gly Asp Val Pro	862
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ttg gtc aat ggg gcc ctc acc tgc aag tat cat aaa tgt ccc tat att Leu Val Asn Gly Ala Leu Thr Cys Lys Tyr His Lys Cys Pro Tyr Ile	958

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atg gcc atg ctg ctg aaa ctt caa gaa gct gcc aac tac att gag tct Met Ala Met Leu Leu Lys Leu Gln Glu Ala Ala Asn Tyr Ile Glu Ser	1582
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Gly Ser Thr Pro Gly Gln Val Pro Gly Ser Ser Ala Leu Ser Ser Pro
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Arg Arg Ser Leu Gly Leu Ala Leu Thr His Ser Phe Gly Pro Ser Leu
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Ala Asp Thr Asp Leu Ser Pro Met Asp Gly Ile Ser Thr Cys Gly Pro
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Ile Ile Lys Gly Asp Leu Lys Gln Gln Glu Phe Phe Leu Gly Cys Ser

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Ile Pro Tyr Leu Gln Glu Gly Ala Lys Asp Gly Ile Lys Val His Gly 435	440	445
Gln Lys Ala Ala Trp Glu Asp Pro Val Glu Trp Val Arg Asp Thr Leu 450	455	460
Pro Trp Pro Ser Ala Gln Gln Asp Gln Ser Lys Leu Tyr His Leu Pro 465	470	475
Pro Pro Thr Val Gly Pro His Ser Ile Ala Ser Pro Pro Glu Asp Arg 485	490	495
Thr Val Lys Asp Ser Thr Pro Ser Ser Leu Asp Ser Asp Pro Leu Met 500	505	510
Ala Met Leu Leu Lys Leu Gln Glu Ala Ala Asn Tyr Ile Glu Ser Pro 515	520	525
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gtt gcc ccc ggc ccc tcc tca ggc tgc act cca ggg cag gtc cct ggg Val Ala Pro Gly Pro Ser Ser Gly Cys Thr Pro Gly Gln Val Pro Gly	192



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cat cct ttc agt cct agt ctc aca gac aca gac ctc tca ccc atg gat His Pro Phe Ser Pro Ser Leu Thr Asp Thr Asp Leu Ser Pro Met Asp	288
ggc atc agc acc tgt ggt tca aag gaa gag gtg acc ctg cgg gtg gtg Gly Ile Ser Thr Cys Gly Ser Lys Glu Glu Val Thr Leu Arg Val Val	336
gtc cgg atg ccg ccc cag cac atc atc aaa ggg gac tta aag cag cag Val Arg Met Pro Pro Gln His Ile Ile Lys Gly Asp Leu Lys Gln Gln	384
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cgc ctg gtg ctc tcc ggc ccc agt ggc acc ggc aag acc tac ttg acc Arg Leu Val Leu Ser Gly Pro Ser Gly Thr Gly Lys Thr Tyr Leu Thr	768
aat cgg cta gcc gag tac ctg gtg gag cgc tcc ggc cgc gag gtc acg Asn Arg Leu Ala Glu Tyr Leu Val Glu Arg Ser Gly Arg Glu Val Thr	816
gat ggc atc gtc agc act ttc aac atg cac cag cag tct tgc aag gat Asp Gly Ile Val Ser Thr Phe Asn Met His Gln Gln Ser Cys Lys Asp	864

ctg caa ctg tac ctc tcc aac cta gcc aac cag ata gac cgg gaa aca Leu Gln Leu Tyr Leu Ser Asn Leu Ala Asn Gln Ile Asp Arg Glu Thr	912
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cac aaa tgt ccc tac att ata ggt acc acc aat cag cct gta aaa atg His Lys Cys Pro Tyr Ile Ile Gly Thr Thr Asn Gln Pro Val Lys Met	1056
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ctc gac tca gat ccc ctg atg gcc atg cta ctg aaa ctc caa gaa gct 1632  
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ctc cag gcg aca ctc tgagggcccg gcagtcactg tcaccctgga gggcagaagg 1735  
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 Gly Ile Ser Thr Cys Gly Ser Lys Glu Glu Val Thr Leu Arg Val Val  
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 Met Asp Pro Ala Ser Thr Leu Gly Leu Ser Thr Glu Ser Ile His Gly  
 165 170 175  
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 180 185 190  
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 Gly Leu Lys Glu Lys Cys Val Asp Ser Leu Val Phe Glu Thr Leu Ile  
 210 215 220  
 Pro Lys Pro Met Met Gln His Tyr Ile Ser Leu Leu Leu Lys His Arg  
 225 230 235 240  
 Arg Leu Val Leu Ser Gly Pro Ser Gly Thr Gly Lys Thr Tyr Leu Thr  
 245 250 255  
 Asn Arg Leu Ala Glu Tyr Leu Val Glu Arg Ser Gly Arg Glu Val Thr  
 260 265 270  
 Asp Gly Ile Val Ser Thr Phe Asn Met His Gln Gln Ser Cys Lys Asp  
 275 280 285  
 Leu Gln Leu Tyr Leu Ser Asn Leu Ala Asn Gln Ile Asp Arg Glu Thr  
 290 295 300  
 Gly Ile Gly Asp Val Pro Leu Val Ile Leu Leu Asp Asp Leu Ser Glu  
 305 310 315 320  
 Ala Gly Ser Ile Ser Glu Leu Val Asn Gly Ala Leu Thr Cys Lys Tyr

325	330	335
His Lys Cys Pro Tyr Ile Ile Gly Thr Thr Asn Gln Pro Val Lys Met		
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Thr Pro Asn His Gly Leu His Leu Ser Phe Arg Met Leu Thr Phe Ser		
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Asn Asn Val Glu Pro Ala Asn Gly Phe Leu Val Arg Tyr Leu Arg Arg		
370	375	380
Lys Leu Val Glu Ser Asp Ser Asp Val Asn Ala Asn Lys Glu Glu Leu		
385	390	400
Leu Arg Val Leu Asp Trp Val Pro Lys Leu Trp Tyr His Leu His Thr		
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Phe Leu Glu Lys His Ser Thr Ser Asp Phe Leu Ile Gly Pro Cys Phe		
420	425	430
Phe Leu Ser Cys Pro Ile Gly Ile Glu Asp Phe Arg Thr Trp Phe Ile		
435	440	445
Asp Leu Trp Asn Asn Ser Ile Ile Pro Tyr Leu Gln Glu Gly Ala Lys		
450	455	460
Asp Gly Ile Lys Val His Gly Gln Lys Ala Ala Trp Glu Asp Pro Val		
465	470	475
Glu Trp Val Arg Asp Thr Leu Pro Trp Pro Ser Ala Gln Gln Asp Gln		
485	490	495
Ser Lys Leu Tyr His Leu Pro Pro Pro Ser Val Gly Pro His Ser Thr		
500	505	510
Ala Ser Pro Pro Glu Asp Arg Thr Val Lys Asp Ser Thr Pro Asn Ser		
515	520	525
Leu Asp Ser Asp Pro Leu Met Ala Met Leu Leu Lys Leu Gln Glu Ala		
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agc ctc aac agc atc acc agc cat tcc agc atc ggc agc agc aaa gat      96
Ser Leu Asn Ser Ile Thr Ser His Ser Ser Ile Gly Ser Ser Lys Asp

gct gat gcc aag aag aaa aag aag aag agt tgg gtatgtaaag gcttggggat    149
Ala Asp Ala Lys Lys Lys Lys Lys Lys Ser Trp

cggcctgtgc taggagtcac tcaccctggt gcagggaact gacccttttc aggatcaaca    209

aagagggtcc cttctaacag gatgccagtg ttgtgacatc tgctggggac aaaaattcac    269

taagttccca ttctctatc cattgtctat tctccttacc accgccctgc acatataccc    329

cagcccccca cgcctcctgc atcctttata catgtctgct atcctggggc tctacctact    389

gatgaggtca aatgtatttg gccgtagaag gagctgagaa aattattcat ggggtgggaga    449

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gagtgaccca gagtgagcgt cttgtccctg tccctgctga ggagggtg ctacagactt    749

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gaaactcggg tcctctcctc gtgctttttc tttcccttg cacaccttcg tgtttccaga    989

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&lt;210&gt; 10

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&lt;400&gt; 10

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Pro Ile Glu Leu Arg Ile Lys Arg Gln Asn Ser Ser Asp Ser Ile Ser
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ata aga aat gga aac tta aaa gcc att cta ggg ctg ttt ttc agt tta Ile Arg Asn Gly Asn Leu Lys Ala Ile Leu Gly Leu Phe Phe Ser Leu	868
tct cgc tac aag cag caa caa cac cat caa caa cag tac tat cag tcc Ser Arg Tyr Lys Gln Gln Gln His His Gln Gln Gln Tyr Tyr Gln Ser	916
ttg gtg gaa ctt cag cag cga gtt act cac gct tcc cct cca tct gaa Leu Val Glu Leu Gln Gln Arg Val Thr His Ala Ser Pro Pro Ser Glu	964
gcc agc cag gcc aaa acc cag caa gat atg cag tcc agg ctt cca ggg Ala Ser Gln Ala Lys Thr Gln Gln Asp Met Gln Ser Arg Leu Pro Gly	1012
ccc tct agg gtg cct gct gca gga agc agc agc aag gtc cag gga gcc Pro Ser Arg Val Pro Ala Ala Gly Ser Ser Ser Lys Val Gln Gly Ala	1060
tct aat tta aat agg aga agt cag agc ttt aac agc att gac aaa aac Ser Asn Leu Asn Arg Arg Ser Gln Ser Phe Asn Ser Ile Asp Lys Asn	1108
aag cct cca aat tat gca aat gga aac gaa aaa ggt gaa gac cct gaa Lys Pro Pro Asn Tyr Ala Asn Gly Asn Glu Lys Gly Glu Asp Pro Glu	1156
aca aga aga atg aga aca gtt aaa aac ata gca gac ttg agg cag aat Thr Arg Arg Met Arg Thr Val Lys Asn Ile Ala Asp Leu Arg Gln Asn	1204
tta gaa gag act atg tcc agt ctt cgt ggg act cag ata agc cac agc Leu Glu Glu Thr Met Ser Ser Leu Arg Gly Thr Gln Ile Ser His Ser	1252
acc ctg gag aca aca ttt gac agc act gtg aca aca gaa gtt aat gga Thr Leu Glu Thr Thr Phe Asp Ser Thr Val Thr Thr Glu Val Asn Gly	1300
agg acc ata ccc aac ttg aca agt cga ccc acc ccc atg acc tgg agg Arg Thr Ile Pro Asn Leu Thr Ser Arg Pro Thr Pro Met Thr Trp Arg	1348
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ggg gct ggc tat cct cgc agt ggt acc agt cga ttc atc cac aca gac Gly Ala Gly Tyr Pro Arg Ser Gly Thr Ser Arg Phe Ile His Thr Asp	1444



ccc tcg agg ttc atg tat acc acg cct ctc cgt cga gct gct gtc tct Pro Ser Arg Phe Met Tyr Thr Thr Pro Leu Arg Arg Ala Ala Val Ser	1492
agg ctg gga aac atg tca cag att gac atg agt gag aaa gca agc agt Arg Leu Gly Asn Met Ser Gln Ile Asp Met Ser Glu Lys Ala Ser Ser	1540
gac ctg gac atg tct tct gag gtc gat gtg ggt gga tat atg agt gat Asp Leu Asp Met Ser Ser Glu Val Asp Val Gly Gly Tyr Met Ser Asp	1588
ggg gat atc ctt ggg aaa agt ctc agg act gat gac atc aac agt ggg Gly Asp Ile Leu Gly Lys Ser Leu Arg Thr Asp Asp Ile Asn Ser Gly	1636
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acc aca tcc tct gtc agc tct tac tcc aac atc acc gtc ccc tct agg Thr Thr Ser Ser Val Ser Ser Tyr Ser Asn Ile Thr Val Pro Ser Arg	1876
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gag acc tgg gat agt cct gag gaa ctg aaa aaa cca gaa gaa gat ttt Glu Thr Trp Asp Ser Pro Glu Glu Leu Lys Lys Pro Glu Glu Asp Phe	1972
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acc gat gat gcc aaa gct tct gag aaa gga aaa gct ccc cta aaa gga Thr Asp Asp Ala Lys Ala Ser Glu Lys Gly Lys Ala Pro Leu Lys Gly	2212
tca tct cta caa aga tct cct tca gat gca gga aaa agc agt gga gat Ser Ser Leu Gln Arg Ser Pro Ser Asp Ala Gly Lys Ser Ser Gly Asp	2260
gaa ggg aaa aag ccc ccc tca ggc att gga aga tcg act gcc acc agc Glu Gly Lys Lys Pro Pro Ser Gly Ile Gly Arg Ser Thr Ala Thr Ser	2308
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tcg aaa ctg aga gaa cca act aaa att ggg tca ggg cgc tcg agt cct Ser Lys Leu Arg Glu Pro Thr Lys Ile Gly Ser Gly Arg Ser Ser Pro	2692
gtc acc gtc aac caa aca gac aag gaa aag gaa aaa gta gca gtc tca Val Thr Val Asn Gln Thr Asp Lys Glu Lys Glu Lys Val Ala Val Ser	2740
gat tca gaa agt gtt tct ttg tca ggt tcc ccc aaa tcc agc ccc acc Asp Ser Glu Ser Val Ser Leu Ser Gly Ser Pro Lys Ser Ser Pro Thr	2788

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Ser Thr Gly Gly Leu Gln Asp Thr Gly Asn Gln Ser Pro Leu Val Ser

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aga gag ctg gtt gca tca caa gaa aaa gtt gct acc ctc aca tct cag Arg Glu Leu Val Ala Ser Gln Glu Lys Val Ala Thr Leu Thr Ser Gln	3892
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 Lys Ala Ile Leu Gly Leu Phe Phe Ser Leu Ser Arg Tyr Lys Gln Gln

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Val	Lys	Asn	Ile	Ala	Asp	Leu	Arg	Gln	Asn	Leu	Glu	Glu	Thr	Met	Ser
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Thr	Thr	Pro	Leu	Arg	Arg	Ala	Ala	Val	Ser	Arg	Leu	Gly	Asn	Met	Ser
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Gly Gly Lys Trp Lys Thr Val Ser Ser Gly Leu Pro Glu Asp Pro Glu		
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Lys Ala Gly Gln Lys Ala Ser Leu Ser Val Ser Gln Thr Gly Ser Trp		
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Gly Thr Ser Ala Leu Lys Thr Pro Gly Lys Thr Asp Asp Ala Lys Ala		
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Ser Glu Lys Gly Lys Ala Pro Leu Lys Gly Ser Ser Leu Gln Arg Ser		
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Gln Tyr Arg Ser Leu Pro Arg Pro Ser Lys Ser Ser Thr Ser Gly Ile		
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Pro Gly Arg Gly Gly His Arg Ser Ser Thr Ser Ser Ile Asp Ser Asn		
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Val Ser Ser Lys Ser Ala Gly Ala Thr Thr Ser Lys Leu Arg Glu Pro		
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Cys Gly Ser Ala Thr Ser Leu Glu Glu Arg Pro Arg Ala Ile Ser His  
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Leu Arg Ile Arg Arg Gln His Ser Ser Glu Ser Val Ser Ser Ile Asn  
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Leu Glu Val Pro Glu Leu Leu Pro Cys Gly Tyr Leu Val Gly Asp Asn 1505	1510	1515 1520
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Ser Phe Val Phe Asp Thr Leu Ile Pro Lys Pro Ile Thr Gln Arg Tyr 1540	1545	1550
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Thr Lys Ser Gly Arg Lys Lys Thr Glu Asp Ala Ile Ala Thr Phe Asn 1585	1590	1595 1600
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caatataata gcagaaactc agaaatattt atttaccag aatcatgcag ctaatagtac	2280
aaggattcag gtcttttact tcctattttg tggttcccaa ctacttttgc caaaggctct	2340
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 <213> mouse

<220>  
 <221> CDS

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gaa gtg aat gga agg gcc atc ccc aac ctg aca agc cga cct tcc ccc Glu Val Asn Gly Arg Ala Ile Pro Asn Leu Thr Ser Arg Pro Ser Pro	94
atg acc tgg aga ctg ggt caa gcg tgc cct cgt cta cag gct gga gat Met Thr Trp Arg Leu Gly Gln Ala Cys Pro Arg Leu Gln Ala Gly Asp	142
gcc ccc tcc atg ggc gct gga tat tct cga agc ggt acc agc cga ttc Ala Pro Ser Met Gly Ala Gly Tyr Ser Arg Ser Gly Thr Ser Arg Phe	190
atc cac acg gat ccc tcc agg ttt atg tat acc acg cct ctc cgc cga Ile His Thr Asp Pro Ser Arg Phe Met Tyr Thr Thr Pro Leu Arg Arg	238
gct gct gtc tcg cgt ctg gga aac atg tca caa ata gat atg agc gag Ala Ala Val Ser Arg Leu Gly Asn Met Ser Gln Ile Asp Met Ser Glu	286
aaa gca agc agt gac ctg gat gtg tct tct gaa gtg gat gtt ggt gga Lys Ala Ser Ser Asp Leu Asp Val Ser Ser Glu Val Asp Val Gly Gly	334
tac atg agc gat ggt gat atc ctt ggg aag agt ctg aga gcg gat gat Tyr Met Ser Asp Gly Asp Ile Leu Gly Lys Ser Leu Arg Ala Asp Asp	382
atc aac agt ggg tac atg aca gat ggt ggg ctc aac cta tat acc aga Ile Asn Ser Gly Tyr Met Thr Asp Gly Gly Leu Asn Leu Tyr Thr Arg	430
agt ctt aac cga gtc ccg gac aca gca act tcc aga gat gtc ata cag Ser Leu Asn Arg Val Pro Asp Thr Ala Thr Ser Arg Asp Val Ile Gln	478
aga ggc gtt cac gat gtg aca gtg gac gca gac agc tgg gat gac agc Arg Gly Val His Asp Val Thr Val Asp Ala Asp Ser Trp Asp Asp Ser	526
agt tct gtg agc agt ggc ctc agt gac aca ctt gat aac att agc aca Ser Ser Val Ser Ser Gly Leu Ser Asp Thr Leu Asp Asn Ile Ser Thr	574
gat gac ctc aac acc acg tcc tcc atc agt tct tac tcc aac atc act Asp Asp Leu Asn Thr Thr Ser Ser Ile Ser Ser Tyr Ser Asn Ile Thr	622

gtc ccc tcc agg aag aac act cag ctg aaa aca gat gcg gag aaa cgt Val Pro Ser Arg Lys Asn Thr Gln Leu Lys Thr Asp Ala Glu Lys Arg	670
tcg aca aca gat gag acc tgg gat agt cct gag gag ctg aag aaa gcc Ser Thr Thr Asp Glu Thr Trp Asp Ser Pro Glu Glu Leu Lys Lys Ala	718
gag gga gat tgt gac agc cat ggt gac gga gcc gcc aag tgg aag ggt Glu Gly Asp Cys Asp Ser His Gly Asp Gly Ala Ala Lys Trp Lys Gly	766
gct act tct gga ctt gct gaa gac tcg gag aag aca ggg cag aaa gcc Ala Thr Ser Gly Leu Ala Glu Asp Ser Glu Lys Thr Gly Gln Lys Ala	814
agc ctg tct gtg tct cag aca ggc tcc tgg agg aga ggc atg tct gcc Ser Leu Ser Val Ser Gln Thr Gly Ser Trp Arg Arg Gly Met Ser Ala	862
cag gga gga act cca gct aca gct agg cag aaa acc agc aca agt gca Gln Gly Gly Thr Pro Ala Thr Ala Arg Gln Lys Thr Ser Thr Ser Ala	910
ctc aag acc cct ggg aag aca gat gat gcc aaa gct tcc gag aaa ggg Leu Lys Thr Pro Gly Lys Thr Asp Asp Ala Lys Ala Ser Glu Lys Gly	958
aaa act cct ctc aaa gga tca tcc ttg caa agg tct cct tca gat gca Lys Thr Pro Leu Lys Gly Ser Ser Leu Gln Arg Ser Pro Ser Asp Ala	1006
ggg aaa agc agc ggg gat gaa ggg aaa aag cca ccg tca ggc att gga Gly Lys Ser Ser Gly Asp Glu Gly Lys Lys Pro Pro Ser Gly Ile Gly	1054
aga tcg aca gcc agc agt tct ttt gga tac aag aag cca agt ggt gta Arg Ser Thr Ala Ser Ser Ser Phe Gly Tyr Lys Lys Pro Ser Gly Val	1102
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tcc aat gca gga agg aaa acc agc ctg gac ggg tcc cag aat caa gat Ser Asn Ala Gly Arg Lys Thr Ser Leu Asp Gly Ser Gln Asn Gln Asp	1246
gat gtt gtc ctg cac gtg agc tcg aag acc acc ctc cag tac cgt agt Asp Val Val Leu His Val Ser Ser Lys Thr Thr Leu Gln Tyr Arg Ser	1294
ttg ccc cgc cct tct aag tcc agc acc agc gga atc cct ggg aga ggt Leu Pro Arg Pro Ser Lys Ser Ser Thr Ser Gly Ile Pro Gly Arg Gly	1342

ggc cac agg tcg agc acc agc agc att gat tcc aat gtc agc agc aag Gly His Arg Ser Ser Thr Ser Ser Ile Asp Ser Asn Val Ser Ser Lys	1390
tca gct ggg gcc acc acc tcc aaa ctg aga gaa ccg act aag atc ggc Ser Ala Gly Ala Thr Thr Ser Lys Leu Arg Glu Pro Thr Lys Ile Gly	1438
tca ggg cgc tcg agt cca gtc act gtc aac caa aca gac aaa gag aag Ser Gly Arg Ser Ser Pro Val Thr Val Asn Gln Thr Asp Lys Glu Lys	1486
gag aaa gta gca gtg tca gat tca gag agc gtt tcc ttg tca ggt tcc Glu Lys Val Ala Val Ser Asp Ser Glu Ser Val Ser Leu Ser Gly Ser	1534
ccc aaa tcc agc ccc acc tct gcc agt gcc tgt ggg act caa ggg ctc Pro Lys Ser Ser Pro Thr Ser Ala Ser Ala Cys Gly Thr Gln Gly Leu	1582
aga cag cca ggg tcc aaa tat cca gat att gcc tcg ccc aca ttt cga Arg Gln Pro Gly Ser Lys Tyr Pro Asp Ile Ala Ser Pro Thr Phe Arg	1630
agg ttg ttc ggt gcc aag gca ggc ggc aaa tct gcc tcc gca cct aat Arg Leu Phe Gly Ala Lys Ala Gly Gly Lys Ser Ala Ser Ala Pro Asn	1678
act gag ggg gcg aag tcc tcc tca gta gtg ctc agc cct agt acc tct Thr Glu Gly Ala Lys Ser Ser Ser Val Val Leu Ser Pro Ser Thr Ser	1726
tta gcc cga caa ggc agt ctg gag tca ccg tcg tcc ggt acg gga agc Leu Ala Arg Gln Gly Ser Leu Glu Ser Pro Ser Ser Gly Thr Gly Ser	1774
atg ggc agt gct ggt ggg ctg agt ggc agc agc agc cct ctc ttc aat Met Gly Ser Ala Gly Gly Leu Ser Gly Ser Ser Ser Pro Leu Phe Asn	1822
aaa ccc tca gac cta act aca gat gtt ata agc tta agt cac tcc ttg Lys Pro Ser Asp Leu Thr Thr Asp Val Ile Ser Leu Ser His Ser Leu	1870
gct tcc agc cca gcg tcg gtt cac tct ttc aca tcc ggt ggg ctt gtg Ala Ser Ser Pro Ala Ser Val His Ser Phe Thr Ser Gly Gly Leu Val	1918
tgg gct gcc aat ctg agc agt tcc tct gcc ggc agc aag gac act cca Trp Ala Ala Asn Leu Ser Ser Ser Ser Ala Gly Ser Lys Asp Thr Pro	1966
agt tac cag tcc atg act agt ctc cat acg agc tct gag tcc att gac Ser Tyr Gln Ser Met Thr Ser Leu His Thr Ser Ser Glu Ser Ile Asp	2014

ctg ccc ctc agc cat cat ggc tcc ctg tct gga ctg acc aca ggc act Leu Pro Leu Ser His His Gly Ser Leu Ser Gly Leu Thr Thr Gly Thr	2062
cac gag gtg cag agc ctg ctc atg aga acg ggt agt gtg aga tct act His Glu Val Gln Ser Leu Leu Met Arg Thr Gly Ser Val Arg Ser Thr	2110
ctc tca gaa aga tac acc cca tca tct cgg cag gcc aac caa gaa gaa Leu Ser Glu Arg Tyr Thr Pro Ser Ser Arg Gln Ala Asn Gln Glu Glu	2158
ggc aaa gag tgg ctg cga tcg cat tcc act ggc ggg ctg cag gat act Gly Lys Glu Trp Leu Arg Ser His Ser Thr Gly Gly Leu Gln Asp Thr	2206
ggc aac cag tct ccc ttg gtc tcc cct tct gcc atg tca tcg tca gcc Gly Asn Gln Ser Pro Leu Val Ser Pro Ser Ala Met Ser Ser Ser Ala	2254
acc gga aaa tat cac ttt tcc aac ttg gtg agt ccc acc aac ctc tcc Thr Gly Lys Tyr His Phe Ser Asn Leu Val Ser Pro Thr Asn Leu Ser	2302
cag ttt aac ctg cct gca ccc agt atg atg cgc tcc agc agt atc ccc Gln Phe Asn Leu Pro Ala Pro Ser Met Met Arg Ser Ser Ser Ile Pro	2350
gcc cag gac tcc tcc ttc gac ctc tat gat gat gcc cag ctt tgc ggt Ala Gln Asp Ser Ser Phe Asp Leu Tyr Asp Asp Ala Gln Leu Cys Gly	2398
agt gca act tcc ctg gag gaa agg cca cgg gcc gtt agc cac tcc ggc Ser Ala Thr Ser Leu Glu Glu Arg Pro Arg Ala Val Ser His Ser Gly	2446
tca ttc aga gac agc atg gag gaa gtt cat ggc tct tca ctg tca ttg Ser Phe Arg Asp Ser Met Glu Glu Val His Gly Ser Ser Leu Ser Leu	2494
gtc tcc agc aca tca tcc ctt tac tct acg gct gaa gag aag gct cat Val Ser Ser Thr Ser Ser Leu Tyr Ser Thr Ala Glu Glu Lys Ala His	2542
tca gag caa atc cat aag cta cgg aga gaa ctg gtt gcc tcc cag gag Ser Glu Gln Ile His Lys Leu Arg Arg Glu Leu Val Ala Ser Gln Glu	2590
aaa gtc gct acc ctc acg tct cag ctg tca gca aat gct cac ctt gta Lys Val Ala Thr Leu Thr Ser Gln Leu Ser Ala Asn Ala His Leu Val	2638
gca gct ttt gaa aag agt tta ggg aat atg act ggc cgt ttg caa agt Ala Ala Phe Glu Lys Ser Leu Gly Asn Met Thr Gly Arg Leu Gln Ser	2686
cta acc atg aca gcg gaa caa aag gaa tct gag ctt atc gaa ctg cgg	2734

Leu Thr Met Thr Ala Glu Gln Lys Glu Ser Glu Leu Ile Glu Leu Arg

gaa acc att gaa atg ttg aag gcc cag aac tct gct gcc caa gca gcc 2782  
Glu Thr Ile Glu Met Leu Lys Ala Gln Asn Ser Ala Ala Gln Ala Ala

att cag gga gca ctg aat ggc cca gac cac cct ccc aaa gat ctc cgc 2830  
Ile Gln Gly Ala Leu Asn Gly Pro Asp His Pro Pro Lys Asp Leu Arg

atc aga aga cag cac tcc tct gaa agt gtt tct agt atc aac agc gca 2878  
Ile Arg Arg Gln His Ser Ser Glu Ser Val Ser Ser Ile Asn Ser Ala

acg agc cat tcc agc att ggc agt ggt aat gat gct gac tcc aag aaa 2926  
Thr Ser His Ser Ser Ile Gly Ser Gly Asn Asp Ala Asp Ser Lys Lys

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<212> PRT  
<213> Mouse

<400> 20

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Val Asn Gly Arg Ala Ile Pro Asn Leu Thr Ser Arg Pro Ser Pro Met  
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Thr Trp Arg Leu Gly Gln Ala Cys Pro Arg Leu Gln Ala Gly Asp Ala  
35 40 45

Pro Ser Met Gly Ala Gly Tyr Ser Arg Ser Gly Thr Ser Arg Phe Ile  
50 55 60

His Thr Asp Pro Ser Arg Phe Met Tyr Thr Thr Pro Leu Arg Arg Ala  
65 70 75 80

Ala Val Ser Arg Leu Gly Asn Met Ser Gln Ile Asp Met Ser Glu Lys  
85 90 95

Ala Ser Ser Asp Leu Asp Val Ser Ser Glu Val Asp Val Gly Gly Tyr  
100 105 110

Met Ser Asp Gly Asp Ile Leu Gly Lys Ser Leu Arg Ala Asp Asp Ile  
115 120 125

Asn Ser Gly Tyr Met Thr Asp Gly Gly Leu Asn Leu Tyr Thr Arg Ser  
130 135 140

Leu Asn Arg Val Pro Asp Thr Ala Thr Ser Arg Asp Val Ile Gln Arg  
145 150 155 160



Gly Val His Asp Val Thr Val Asp Ala Asp Ser Trp Asp Asp Ser Ser  
 165 170 175  
 Ser Val Ser Ser Gly Leu Ser Asp Thr Leu Asp Asn Ile Ser Thr Asp  
 180 185 190  
 Asp Leu Asn Thr Thr Ser Ser Ile Ser Ser Tyr Ser Asn Ile Thr Val  
 195 200 205  
 Pro Ser Arg Lys Asn Thr Gln Leu Lys Thr Asp Ala Glu Lys Arg Ser  
 210 215 220  
 Thr Thr Asp Glu Thr Trp Asp Ser Pro Glu Glu Leu Lys Lys Ala Glu  
 225 230 235 240  
 Gly Asp Cys Asp Ser His Gly Asp Gly Ala Ala Lys Trp Lys Gly Ala  
 245 250 255  
 Thr Ser Gly Leu Ala Glu Asp Ser Glu Lys Thr Gly Gln Lys Ala Ser  
 260 265 270  
 Leu Ser Val Ser Gln Thr Gly Ser Trp Arg Arg Gly Met Ser Ala Gln  
 275 280 285  
 Gly Gly Thr Pro Ala Thr Ala Arg Gln Lys Thr Ser Thr Ser Ala Leu  
 290 295 300  
 Lys Thr Pro Gly Lys Thr Asp Asp Ala Lys Ala Ser Glu Lys Gly Lys  
 305 310 315 320  
 Thr Pro Leu Lys Gly Ser Ser Leu Gln Arg Ser Pro Ser Asp Ala Gly  
 325 330 335  
 Lys Ser Ser Gly Asp Glu Gly Lys Lys Pro Pro Ser Gly Ile Gly Arg  
 340 345 350  
 Ser Thr Ala Ser Ser Ser Phe Gly Tyr Lys Lys Pro Ser Gly Val Gly  
 355 360 365  
 Ala Ser Thr Met Ile Thr Ser Ser Gly Ala Thr Ile Thr Ser Gly Ser  
 370 375 380  
 Ala Thr Leu Gly Lys Ile Pro Lys Ser Ala Ala Ile Gly Gly Lys Ser  
 385 390 395 400  
 Asn Ala Gly Arg Lys Thr Ser Leu Asp Gly Ser Gln Asn Gln Asp Asp  
 405 410 415  
 Val Val Leu His Val Ser Ser Lys Thr Thr Leu Gln Tyr Arg Ser Leu  
 420 425 430  
 Pro Arg Pro Ser Lys Ser Ser Thr Ser Gly Ile Pro Gly Arg Gly Gly  
 435 440 445  
 His Arg Ser Ser Thr Ser Ser Ile Asp Ser Asn Val Ser Ser Lys Ser

450	455	460
Ala Gly Ala Thr Thr Ser Lys Leu Arg Glu Pro Thr Lys Ile Gly Ser 465	470	475 480
Gly Arg Ser Ser Pro Val Thr Val Asn Gln Thr Asp Lys Glu Lys Glu 485	490	495
Lys Val Ala Val Ser Asp Ser Glu Ser Val Ser Leu Ser Gly Ser Pro 500	505	510
Lys Ser Ser Pro Thr Ser Ala Ser Ala Cys Gly Thr Gln Gly Leu Arg 515	520	525
Gln Pro Gly Ser Lys Tyr Pro Asp Ile Ala Ser Pro Thr Phe Arg Arg 530	535	540
Leu Phe Gly Ala Lys Ala Gly Gly Lys Ser Ala Ser Ala Pro Asn Thr 545	550	555 560
Glu Gly Ala Lys Ser Ser Ser Val Val Leu Ser Pro Ser Thr Ser Leu 565	570	575
Ala Arg Gln Gly Ser Leu Glu Ser Pro Ser Ser Gly Thr Gly Ser Met 580	585	590
Gly Ser Ala Gly Gly Leu Ser Gly Ser Ser Ser Pro Leu Phe Asn Lys 595	600	605
Pro Ser Asp Leu Thr Thr Asp Val Ile Ser Leu Ser His Ser Leu Ala 610	615	620
Ser Ser Pro Ala Ser Val His Ser Phe Thr Ser Gly Gly Leu Val Trp 625	630	635 640
Ala Ala Asn Leu Ser Ser Ser Ser Ala Gly Ser Lys Asp Thr Pro Ser 645	650	655
Tyr Gln Ser Met Thr Ser Leu His Thr Ser Ser Glu Ser Ile Asp Leu 660	665	670
Pro Leu Ser His His Gly Ser Leu Ser Gly Leu Thr Thr Gly Thr His 675	680	685
Glu Val Gln Ser Leu Leu Met Arg Thr Gly Ser Val Arg Ser Thr Leu 690	695	700
Ser Glu Arg Tyr Thr Pro Ser Ser Arg Gln Ala Asn Gln Glu Glu Gly 705	710	715 720
Lys Glu Trp Leu Arg Ser His Ser Thr Gly Gly Leu Gln Asp Thr Gly 725	730	735
Asn Gln Ser Pro Leu Val Ser Pro Ser Ala Met Ser Ser Ser Ala Thr 740	745	750

Gly Lys Tyr His Phe Ser Asn Leu Val Ser Pro Thr Asn Leu Ser Gln  
 755 760 765

Phe Asn Leu Pro Ala Pro Ser Met Met Arg Ser Ser Ser Ile Pro Ala  
 770 775 780

Gln Asp Ser Ser Phe Asp Leu Tyr Asp Asp Ala Gln Leu Cys Gly Ser  
 785 790 795 800

Ala Thr Ser Leu Glu Glu Arg Pro Arg Ala Val Ser His Ser Gly Ser  
 805 810 815

Phe Arg Asp Ser Met Glu Glu Val His Gly Ser Ser Leu Ser Leu Val  
 820 825 830

Ser Ser Thr Ser Ser Leu Tyr Ser Thr Ala Glu Glu Lys Ala His Ser  
 835 840 845

Glu Gln Ile His Lys Leu Arg Arg Glu Leu Val Ala Ser Gln Glu Lys  
 850 855 860

Val Ala Thr Leu Thr Ser Gln Leu Ser Ala Asn Ala His Leu Val Ala  
 865 870 875 880

Ala Phe Glu Lys Ser Leu Gly Asn Met Thr Gly Arg Leu Gln Ser Leu  
 885 890 895

Thr Met Thr Ala Glu Gln Lys Glu Ser Glu Leu Ile Glu Leu Arg Glu  
 900 905 910

Thr Ile Glu Met Leu Lys Ala Gln Asn Ser Ala Ala Gln Ala Ala Ile  
 915 920 925

Gln Gly Ala Leu Asn Gly Pro Asp His Pro Pro Lys Asp Leu Arg Ile  
 930 935 940

Arg Arg Gln His Ser Ser Glu Ser Val Ser Ser Ile Asn Ser Ala Thr  
 945 950 955 960

Ser His Ser Ser Ile Gly Ser Gly Asn Asp Ala Asp Ser Lys Lys  
 965 970 975

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 <212> DNA  
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ccaatgcagg aaggaaaacc agcctggacg ggtcccagaa tcaagatgat gttgtcctgc	240
acgtgagctc gaagaccacc ctccagtacc gtagtttgcc cgccttctt aagtcagca	300
ccagcggaat ccctgggaga ggtggccaca ggtcgagcac cagcagcatt gattccaatg	360
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tgtcagattc agagagcgtt tccttgtcag gttcccccaa atccagcccc acctctgcca	540
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tac 2583

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<210> 22
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<212> DNA
<213> Homo sapiens

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<222> (2) .. (34)

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<400> 22

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Arg Gly Ala Ser Ile Leu Pro Leu Thr Asp Phe *

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<400> 23

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cgc cct atc gct ccc cgg ctt ccc tgc tct ttc ctt ttt ccc ggc ttc Arg Pro Ile Ala Pro Arg Leu Pro Cys Ser Phe Leu Phe Pro Gly Phe	96
ctt cct cgc gtt tct ttc ccc tgc gcc ctc ggc ttg cct ctc tcc ctc Leu Pro Arg Val Ser Phe Pro Cys Ala Leu Gly Leu Pro Leu Ser Leu	144
ctc cct cgc tct ctc ccc ctt ctc tcc cct tct tcc tcg gtt tct tcc Leu Pro Arg Ser Leu Pro Leu Leu Ser Pro Ser Ser Ser Val Ser Ser	192
gtc ctc tct ctc ccc ctc ctc ctc ccc cgc ctc ctc ctc ctg cgc tcc Val Leu Ser Leu Pro Leu Leu Leu Pro Arg Leu Leu Leu Leu Arg Ser	240
cgc ccc ctg ccc cct ccc ccc gtg cct gca gac gcg cgg atc gtc cat Arg Pro Leu Pro Pro Pro Pro Val Pro Ala Asp Ala Arg Ile Val His	288
gcg ctc ctc gcg ggc aga atg ctg ggc agc agc gtc aag agc gtg cag Ala Leu Leu Ala Gly Arg Met Leu Gly Ser Ser Val Lys Ser Val Gln	336
ccc gag gtg gag ctg agc agc ggc ggc ggc gac gag ggc gcg gac gaa Pro Glu Val Glu Leu Ser Ser Gly Gly Gly Asp Glu Gly Ala Asp Glu	384
ccg cgg ggc gcc ggc agg aag gcg gca gcg gcg gac ggc aga ggc atg Pro Arg Gly Ala Gly Arg Lys Ala Ala Ala Ala Asp Gly Arg Gly Met	432
ctg ccc aag cgc gcc aag gcg ccc ggc ggc ggc ggc ggc atg gcc aag Leu Pro Lys Arg Ala Lys Ala Pro Gly Gly Gly Gly Gly Met Ala Lys	480
gcc agc gcg gct gag ctg aag gtc ttc aag tcc ggc agc gtg gac agc Ala Ser Ala Ala Glu Leu Lys Val Phe Lys Ser Gly Ser Val Asp Ser	528
cgt gtc ccc ggc ggg ccg ccc gcc tcc aac ctg cgc aag cag aag tca Arg Val Pro Gly Gly Pro Pro Ala Ser Asn Leu Arg Lys Gln Lys Ser	576
ctc acc aac ctc tct ttt ctc acg gac tcc gag aaa aag ctg cag ctt Leu Thr Asn Leu Ser Phe Leu Thr Asp Ser Glu Lys Lys Leu Gln Leu	624
tat gag ccc gaa tgg agc gac gat atg gcc aag gcg ccc aaa ggc tta Tyr Glu Pro Glu Trp Ser Asp Asp Met Ala Lys Ala Pro Lys Gly Leu	672
ggc aag gtg ggg tcc aag ggc cgt gaa gct ccg ctg atg tcc aag acg Gly Lys Val Gly Ser Lys Gly Arg Glu Ala Pro Leu Met Ser Lys Thr	720

ctg tcc aag tcg gag cac tcg ctc ttc cag gcc aag ggc agc ccg gcg Leu Ser Lys Ser Glu His Ser Leu Phe Gln Ala Lys Gly Ser Pro Ala	768
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gat gaa agc agc tcc atc agt agt gga ctc agc gat gcc tca gac aat Asp Glu Ser Ser Ser Ile Ser Ser Gly Leu Ser Asp Ala Ser Asp Asn	1584
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Tyr Pro Lys Leu Ser Gly Leu His Arg Ser Met Glu Ser Leu Gln Met	
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Glu Pro Ala Gly Glu Gly Leu Pro Leu Arg Lys Ser Gly Ser Val Glu

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Asn Gly Phe Asp Thr Gln Ile Tyr Thr Asp Trp Ala Asn His Tyr Leu

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Ala Lys Ser Gly His Lys Arg Leu Ile Arg Asp Leu Gln Gln Asp Val

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Lys Ile Glu Asp Ile Asn Gly Cys Pro Lys Asn Arg Ser Gln Met Ile

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Glu Asn Ile Asp Ala Cys Leu Asn Phe Leu Ala Ala Lys Gly Ile Asn

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ttt gaa cag agt ctt ggt aac atg aca atc agg ctc cag agt ctg acc Phe Glu Gln Ser Leu Gly Asn Met Thr Ile Arg Leu Gln Ser Leu Thr	4894
atg aca gct gag cag aag gat tca gaa ctg aat gag tta aga aaa acc Met Thr Ala Glu Gln Lys Asp Ser Glu Leu Asn Glu Leu Arg Lys Thr	4942
att gag ctg cta aag aaa cag aac gca gct gcc cag gct gcc att aat Ile Glu Leu Leu Lys Lys Gln Asn Ala Ala Ala Gln Ala Ala Ile Asn	4990
gga gta att aac aca cct gag ctc aac tgc aaa gga aac ggc act gcc Gly Val Ile Asn Thr Pro Glu Leu Asn Cys Lys Gly Asn Gly Thr Ala	5038
cag tct gca gac ctc cgc atc cgc agg cag cac tcc tca gac agc gtc Gln Ser Ala Asp Leu Arg Ile Arg Arg Gln His Ser Ser Asp Ser Val	5086
tcc agc atc aac agt gcc acc agc cac tcc agt gtg ggc agc aac ata Ser Ser Ile Asn Ser Ala Thr Ser His Ser Ser Val Gly Ser Asn Ile	5134
gag agt gac tca aag aag aag aag agg aag aac tgg gtc aat gag tta Glu Ser Asp Ser Lys Lys Lys Lys Arg Lys Asn Trp Val Asn Glu Leu	5182
cgc agc tcc ttc aag caa gct ttc ggg aag aag aag tcc cca aaa tct Arg Ser Ser Phe Lys Gln Ala Phe Gly Lys Lys Lys Ser Pro Lys Ser	5230

gcg tcc tct cat tca gat att gag gag atg acg gat tct tct ttg cct Ala Ser Ser His Ser Asp Ile Glu Glu Met Thr Asp Ser Ser Leu Pro	5278
tcc tca cca aag tta cca cac aat ggg tcc aca ggt tcc acc cca ctg Ser Ser Pro Lys Leu Pro His Asn Gly Ser Thr Gly Ser Thr Pro Leu	5326
ctg agg aat tct cac tcc aac tct cta att tca gaa tgc atg gat agt Leu Arg Asn Ser His Ser Asn Ser Leu Ile Ser Glu Cys Met Asp Ser	5374
gaa gct gag acc gtc atg cag ctc cga aat gag tta aga gac aag gag Glu Ala Glu Thr Val Met Gln Leu Arg Asn Glu Leu Arg Asp Lys Glu	5422
atg aag ctg aca gat atc cgc tta gaa gct ctc agt tct gcc cac cag Met Lys Leu Thr Asp Ile Arg Leu Glu Ala Leu Ser Ser Ala His Gln	5470
ctg gac cag ctc cgg gag gcc atg aac agg atg cag agt gaa ata gag Leu Asp Gln Leu Arg Glu Ala Met Asn Arg Met Gln Ser Glu Ile Glu	5518
aag ctg aaa gct gag aat gat cgg ctg aag tca gag tct caa ggc agt Lys Leu Lys Ala Glu Asn Asp Arg Leu Lys Ser Glu Ser Gln Gly Ser	5566
ggc tgc agc cgg gct cct tcc caa gtg tcc atc tct gcc tcc ccg agg Gly Cys Ser Arg Ala Pro Ser Gln Val Ser Ile Ser Ala Ser Pro Arg	5614
cag tcc atg ggc ctc tcc cag cac agc ttg aac ctc act gag tca acc Gln Ser Met Gly Leu Ser Gln His Ser Leu Asn Leu Thr Glu Ser Thr	5662
agc ctg gac atg ttg ctg gat gac act ggt gaa tgc tcg gct cgg aag Ser Leu Asp Met Leu Leu Asp Asp Thr Gly Glu Cys Ser Ala Arg Lys	5710
gaa gga ggc agg cat gtt aag ata gtt gtc agc ttt cag gag gaa atg Glu Gly Gly Arg His Val Lys Ile Val Val Ser Phe Gln Glu Glu Met	5758
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cgg ctg ttc aaa gaa tac atc att cat gtc gac cca gtg agt cag cta Arg Leu Phe Lys Glu Tyr Ile Ile His Val Asp Pro Val Ser Gln Leu	5902
ggg ctg aat tca gac agc gtt ctt ggc tac agc att gga gaa atc aag Gly Leu Asn Ser Asp Ser Val Leu Gly Tyr Ser Ile Gly Glu Ile Lys	5950

cgc agc aac act tcc gaa aca ccg gag ctg ctt cct tgt ggc tat ctg Arg Ser Asn Thr Ser Glu Thr Pro Glu Leu Leu Pro Cys Gly Tyr Leu	5998
gtt gga gag aac acg acc atc tca gtg act gtg aaa ggg ctc gca gaa Val Gly Glu Asn Thr Thr Ile Ser Val Thr Val Lys Gly Leu Ala Glu	6046
aac agc ctg gac tca ctg gtg ttt gag tcc ttg att ccc aag ccc atc Asn Ser Leu Asp Ser Leu Val Phe Glu Ser Leu Ile Pro Lys Pro Ile	6094
ctg cag cgc tac gtc tcc ctc ctg ata gag cac cgt cgg atc att ctc Leu Gln Arg Tyr Val Ser Leu Leu Ile Glu His Arg Arg Ile Ile Leu	6142
tct ggc ccc agc ggc act ggg aaa acc tac ctg gcc aac cgg ctg tct Ser Gly Pro Ser Gly Thr Gly Lys Thr Tyr Leu Ala Asn Arg Leu Ser	6190
gag tat ata gtg ctt cga gag gga cgg gag ttg aca gac ggg gtt atc Glu Tyr Ile Val Leu Arg Glu Gly Arg Glu Leu Thr Asp Gly Val Ile	6238
gcc acc ttt aac gtg gac cat aag tcc agc aag gaa ttg cgc cag tac Ala Thr Phe Asn Val Asp His Lys Ser Ser Lys Glu Leu Arg Gln Tyr	6286
ctg tcc aac ctt gct gac cag tgc aac agt gag aac aat gct gtg gac Leu Ser Asn Leu Ala Asp Gln Cys Asn Ser Glu Asn Asn Ala Val Asp	6334
atg ccc ctc gtc atc atc ctg gac aac cta cac cac gtg agc tct ctg Met Pro Leu Val Ile Ile Leu Asp Asn Leu His His Val Ser Ser Leu	6382
ggc gag atc ttc aat ggg ctg ctc aac tgc aag tac cac aaa tgc cct Gly Glu Ile Phe Asn Gly Leu Leu Asn Cys Lys Tyr His Lys Cys Pro	6430
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cag ctt cac cat aac ttc aga tgg gtg ctt tgt gcc aac cac acg gag Gln Leu His His Asn Phe Arg Trp Val Leu Cys Ala Asn His Thr Glu	6526
cct gtg aag ggt ttc ctt ggc cga ttc ctg agg agg aag ctc atg gaa Pro Val Lys Gly Phe Leu Gly Arg Phe Leu Arg Arg Lys Leu Met Glu	6574
aca gag atc agt ggg cgg gtg cgc aat atg gag ctg gta aaa atc att Thr Glu Ile Ser Gly Arg Val Arg Asn Met Glu Leu Val Lys Ile Ile	6622

gac tgg att ccc aag gtc tgg cat cac ctc aac cgc ttc ctg gag gct Asp Trp Ile Pro Lys Val Trp His His Leu Asn Arg Phe Leu Glu Ala	6670
cac agt tcc tcg gac gtc acc atc ggc ccc cgg ctc ttc ctg tca tgc His Ser Ser Ser Asp Val Thr Ile Gly Pro Arg Leu Phe Leu Ser Cys	6718
ccc atc gat gtg gac ggc tcg aga gtg tgg ttc acc gac ttg tgg aac Pro Ile Asp Val Asp Gly Ser Arg Val Trp Phe Thr Asp Leu Trp Asn	6766
tat tcc att atc ccc tat ctc ctg gaa gcc gtc aga gaa gga ctc cag Tyr Ser Ile Ile Pro Tyr Leu Leu Glu Ala Val Arg Glu Gly Leu Gln	6814
ctc tat gga agg cgc gcc ccc tgg gag gat cct gcc aag tgg gtg atg Leu Tyr Gly Arg Arg Ala Pro Trp Glu Asp Pro Ala Lys Trp Val Met	6862
gac aca tat cca tgg gca gcc agc cca caa cag cac gag tgg cct ccc Asp Thr Tyr Pro Trp Ala Ala Ser Pro Gln Gln His Glu Trp Pro Pro	6910
ctg ctg cag tta cgg cct gag gat gtc ggc ttc gac ggc tac tcc atg Leu Leu Gln Leu Arg Pro Glu Asp Val Gly Phe Asp Gly Tyr Ser Met	6958
cct cgg gag gga tcg aca agc aag cag atg ccc ccc agt gat gct gaa Pro Arg Glu Gly Ser Thr Ser Lys Gln Met Pro Pro Ser Asp Ala Glu	7006
ggc gac ccg ctg atg aac atg ctg atg agg ctg cag gag gca gcc aac Gly Asp Pro Leu Met Asn Met Leu Met Arg Leu Gln Glu Ala Ala Asn	7054
tac tcc agc ccc cag agc tat gac agc gac tcc aac agc aac agc cat Tyr Ser Ser Pro Gln Ser Tyr Asp Ser Asp Ser Asn Ser Asn Ser His	7102
cac gat gac atc ttg gac tcc tct ttg gag tcc act ctg tgacaggggc His Asp Asp Ile Leu Asp Ser Ser Leu Glu Ser Thr Leu	7151
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gcttccttcc acagcgagaa ctgcactacc ttctgttgta ctttaattat tgttttgcct	7391
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 gctttcatgt tttttaaaaa aaaaaaaaaa aa 7783

<210> 27  
 <211> 2380  
 <212> PRT  
 <213> Homo sapiens

<400> 27

Asn	Gln	Pro	Glu	Arg	Leu	Asn	Ser	Gln	Val	Leu	Gln	Gly	Leu	Gln	Glu	1	5	10	15
Pro	Ala	Gly	Glu	Gly	Leu	Pro	Leu	Arg	Lys	Ser	Gly	Ser	Val	Glu	Asn	20	25	30	
Gly	Phe	Asp	Thr	Gln	Ile	Tyr	Thr	Asp	Trp	Ala	Asn	His	Tyr	Leu	Ala	35	40	45	
Lys	Ser	Gly	His	Lys	Arg	Leu	Ile	Arg	Asp	Leu	Gln	Gln	Asp	Val	Thr	50	55	60	
Asp	Gly	Val	Leu	Leu	Ala	Gln	Ile	Ile	Gln	Val	Val	Ala	Asn	Glu	Lys	65	70	75	80
Ile	Glu	Asp	Ile	Asn	Gly	Cys	Pro	Lys	Asn	Arg	Ser	Gln	Met	Ile	Glu	85	90	95	
Asn	Ile	Asp	Ala	Cys	Leu	Asn	Phe	Leu	Ala	Ala	Lys	Gly	Ile	Asn	Ile	100	105	110	
Gln	Gly	Leu	Ser	Ala	Glu	Glu	Ile	Arg	Asn	Gly	Asn	Leu	Lys	Ala	Ile	115	120	125	
Leu	Gly	Leu	Phe	Phe	Ser	Leu	Ser	Arg	Tyr	Lys	Gln	Gln	Gln	Gln	Gln	130	135	140	
Pro	Gln	Lys	Gln	His	Leu	Ser	Ser	Pro	Leu	Pro	Pro	Ala	Val	Ser	Gln	145	150	155	160
Val	Ala	Gly	Ala	Pro	Ser	Gln	Cys	Gln	Ala	Gly	Thr	Pro	Gln	Gln	Gln	165	170	175	
Val	Pro	Val	Thr	Pro	Gln	Ala	Pro	Cys	Gln	Pro	His	Gln	Pro	Ala	Pro	180	185	190	
His	Gln	Gln	Ser	Lys	Ala	Gln	Ala	Glu	Met	Gln	Ser	Arg	Leu	Pro	Gly				



195	200	205
Pro Thr Ala Arg Val Ser	Ala Ala Gly Ser Glu Ala Lys Thr Arg Gly	
210	215	220
Gly Ser Thr Thr Ala Asn Asn Arg Arg Ser Gln Ser Phe Asn Asn Tyr		
225	230	235 240
Asp Lys Ser Lys Pro Val Thr Ser Pro Pro Pro Pro Ser Ser His		
245	250	255
Glu Lys Glu Pro Leu Ala Ser Ser Ala Ser Ser His Pro Gly Met Ser		
260	265	270
Asp Asn Ala Pro Ala Ser Leu Glu Ser Gly Ser Ser Ser Thr Pro Thr		
275	280	285
Asn Cys Ser Thr Ser Ser Ala Ile Pro Gln Pro Gly Ala Ala Thr Lys		
290	295	300
Pro Trp Arg Ser Lys Ser Leu Ser Val Lys His Ser Ala Thr Val Ser		
305	310	315 320
Met Leu Ser Val Lys Pro Pro Gly Pro Glu Ala Pro Arg Pro Thr Pro		
325	330	335
Glu Ala Met Lys Pro Ala Pro Asn Asn Gln Lys Ser Met Leu Glu Lys		
340	345	350
Leu Lys Leu Phe Asn Ser Lys Gly Gly Ser Lys Ala Gly Glu Gly Pro		
355	360	365
Gly Ser Arg Asp Thr Ser Cys Glu Arg Leu Glu Thr Leu Pro Ser Phe		
370	375	380
Glu Glu Ser Glu Glu Leu Glu Ala Ala Ser Arg Met Leu Thr Thr Val		
385	390	395 400
Gly Pro Ala Ser Ser Ser Pro Lys Ile Ala Leu Lys Gly Ile Ala Gln		
405	410	415
Arg Thr Phe Ser Arg Ala Leu Thr Asn Lys Lys Ser Ser Leu Lys Gly		
420	425	430
Asn Glu Lys Glu Lys Glu Lys Gln Gln Arg Glu Lys Asp Lys Glu Lys		
435	440	445
Ser Lys Asp Leu Ala Lys Arg Ala Ser Val Thr Glu Arg Leu Asp Leu		
450	455	460
Lys Glu Glu Pro Lys Glu Asp Pro Ser Gly Ala Ala Val Pro Glu Met		
465	470	475 480
Pro Lys Lys Ser Ser Lys Ile Ala Ser Phe Ile Pro Lys Gly Gly Lys		
485	490	495

Leu Asn Ser Ala Lys Lys Glu Pro Met Ala Pro Ser His Ser Gly Ile  
 500 505 510  
 Pro Lys Pro Gly Met Lys Ser Met Pro Gly Lys Ser Pro Ser Ala Pro  
 515 520 525  
 Ala Pro Ser Lys Glu Gly Glu Arg Ser Arg Ser Gly Lys Leu Ser Ser  
 530 535 540  
 Gly Leu Pro Gln Gln Lys Pro Gln Leu Asp Gly Arg His Ser Ser Ser  
 545 550 555 560  
 Ser Ser Ser Leu Ala Ser Ser Glu Gly Lys Gly Pro Gly Gly Thr Thr  
 565 570 575  
 Leu Asn His Ser Ile Ser Ser Gln Thr Val Ser Gly Ser Val Gly Thr  
 580 585 590  
 Thr Gln Thr Thr Gly Ser Asn Thr Val Ser Val Gln Leu Pro Gln Pro  
 595 600 605  
 Gln Gln Gln Tyr Asn His Pro Asn Thr Ala Thr Val Ala Pro Phe Leu  
 610 615 620  
 Tyr Arg Ser Gln Thr Asp Thr Glu Gly Asn Val Thr Ala Glu Ser Ser  
 625 630 635 640  
 Ser Thr Gly Val Ser Val Glu Pro Ser His Phe Thr Lys Thr Gly Gln  
 645 650 655  
 Pro Ala Leu Glu Glu Leu Thr Gly Glu Asp Pro Glu Ala Arg Arg Leu  
 660 665 670  
 Arg Thr Val Lys Asn Ile Ala Asp Leu Arg Gln Asn Leu Glu Glu Thr  
 675 680 685  
 Met Ser Ser Leu Arg Gly Thr Gln Val Thr His Ser Thr Leu Glu Thr  
 690 695 700  
 Thr Phe Asp Thr Asn Val Thr Thr Glu Met Ser Gly Arg Ser Ile Leu  
 705 710 715 720  
 Ser Leu Thr Gly Arg Pro Thr Pro Leu Ser Trp Arg Leu Gly Gln Ser  
 725 730 735  
 Ser Pro Arg Leu Gln Ala Gly Asp Ala Pro Ser Met Gly Asn Gly Tyr  
 740 745 750  
 Pro Pro Arg Ala Asn Ala Ser Arg Phe Ile Asn Thr Glu Ser Gly Arg  
 755 760 765  
 Tyr Val Tyr Ser Ala Pro Leu Arg Arg Gln Leu Ala Ser Arg Gly Ser  
 770 775 780  
 Ser Val Cys His Val Asp Val Ser Asp Lys Ala Gly Asp Glu Met Asp  
 785 790 795 800

Leu Glu Gly Ile Ser Met Asp Ala Pro Gly Tyr Met Ser Asp Gly Asp  
                             805                            810                            815

Val Leu Ser Lys Asn Ile Arg Thr Asp Asp Ile Thr Ser Gly Tyr Met  
                             820                            825                            830

Thr Asp Gly Gly Leu Gly Leu Tyr Thr Arg Arg Leu Asn Arg Leu Pro  
                             835                            840                            845

Asp Gly Met Ala Val Val Arg Glu Thr Leu Gln Arg Asn Thr Ser Leu  
                             850                            855                            860

Gly Leu Gly Asp Ala Asp Ser Trp Asp Asp Ser Ser Ser Val Ser Ser  
                             865                            870                            875                            880

Gly Ile Ser Asp Thr Ile Asp Asn Leu Ser Thr Asp Asp Ile Asn Thr  
                             885                            890                            895

Ser Ser Ser Ile Ser Ser Tyr Ala Asn Thr Pro Ala Ser Ser Arg Lys  
                             900                            905                            910

Asn Leu Asp Val Gln Thr Asp Ala Glu Lys His Ser Gln Val Glu Arg  
                             915                            920                            925

Asn Ser Leu Trp Ser Gly Asp Asp Val Lys Lys Ser Asp Gly Gly Ser  
                             930                            935                            940

Asp Ser Gly Ile Lys Met Glu Pro Gly Ser Lys Trp Arg Arg Asn Pro  
                             945                            950                            955                            960

Ser Asp Val Ser Asp Glu Ser Asp Lys Ser Thr Ser Gly Lys Lys Asn  
                             965                            970                            975

Pro Val Ile Ser Gln Thr Gly Ser Trp Arg Arg Gly Met Thr Ala Gln  
                             980                            985                            990

Val Gly Ile Thr Met Pro Arg Thr Lys Ala Ser Ala Pro Ala Gly Ala  
                             995                            1000                            1005

Leu Lys Thr Pro Gly Thr Gly Lys Thr Asp Asp Ala Lys Val Ser Glu  
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Lys Gly Arg Leu Ser Pro Lys Ala Ser Gln Val Lys Arg Ser Pro Ser  
                             1025                            1030                            1035                            1040

Asp Ala Gly Arg Ser Ser Gly Asp Glu Ser Lys Lys Pro Leu Pro Ser  
                             1045                            1050                            1055

Ser Ser Arg Thr Pro Thr Ala Asn Ala Asn Ser Phe Gly Phe Lys Lys  
                             1060                            1065                            1070

Gln Ser Gly Ser Ala Thr Gly Leu Ala Met Ile Thr Ala Ser Gly Val  
                             1075                            1080                            1085

Thr Val Thr Ser Arg Ser Ala Thr Leu Gly Lys Ile Pro Lys Ser Ser

1090	1095	1100
Ala Leu Val Ser Arg Ser Ala Gly Arg Lys Ser Ser Met Asp Gly Ala 1105	1110	1115 1120
Gln Asn Gln Asp Asp Gly Tyr Leu Ala Leu Ser Ser Arg Thr Asn Leu 1125	1130	1135
Gln Tyr Arg Ser Leu Pro Arg Pro Ser Lys Ser Asn Ser Arg Asn Gly 1140	1145	1150
Ala Gly Asn Arg Ser Ser Thr Ser Ser Ile Asp Ser Asn Ile Ser Ser 1155	1160	1165
Lys Ser Ala Gly Leu Pro Val Pro Lys Leu Arg Glu Pro Ser Lys Thr 1170	1175	1180
Ala Leu Gly Ser Ser Leu Pro Gly Leu Val Asn Gln Thr Asp Lys Glu 1185	1190	1195 1200
Lys Gly Ile Ser Ser Asp Asn Glu Ser Val Ala Ser Cys Asn Ser Val 1205	1210	1215
Lys Val Asn Pro Ala Ala Gln Pro Val Ser Ser Pro Ala Gln Thr Ser 1220	1225	1230
Leu Gln Pro Gly Ala Lys Tyr Pro Asp Val Ala Ser Pro Thr Leu Arg 1235	1240	1245
Arg Leu Phe Gly Gly Lys Pro Thr Lys Gln Val Pro Ile Ala Thr Ala 1250	1255	1260
Glu Asn Met Lys Asn Ser Val Val Ile Ser Asn Pro His Ala Thr Met 1265	1270	1275 1280
Thr Gln Gln Gly Asn Leu Asp Ser Pro Ser Gly Ser Gly Val Leu Ser 1285	1290	1295
Ser Gly Ser Ser Ser Pro Leu Tyr Ser Lys Asn Val Asp Leu Asn Gln 1300	1305	1310
Ser Pro Leu Ala Ser Ser Pro Ser Ser Ala His Ser Ala Pro Ser Asn 1315	1320	1325
Ser Leu Thr Trp Gly Thr Asn Ala Ser Ser Ser Ser Ala Val Ser Lys 1330	1335	1340
Asp Gly Leu Gly Phe Gln Ser Val Ser Ser Leu His Thr Ser Cys Glu 1345	1350	1355 1360
Ser Ile Asp Ile Ser Leu Ser Ser Gly Gly Val Pro Ser His Asn Ser 1365	1370	1375
Ser Thr Gly Leu Ile Ala Ser Ser Lys Asp Asp Ser Leu Thr Pro Phe 1380	1385	1390
Val Arg Thr Asn Ser Val Lys Thr Thr Leu Ser Glu Ser Pro Leu Ser		

1395

1400

1405

Ser Pro Ala Ala Ser Pro Lys Phe Cys Arg Ser Thr Leu Pro Arg Lys  
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Gln Asp Ser Asp Pro His Leu Asp Arg Asn Thr Leu Pro Lys Lys Gly  
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Leu Arg Tyr Thr Pro Thr Ser Gln Leu Arg Thr Gln Glu Asp Ala Lys  
 1445 1450 1455

Glu Trp Leu Arg Ser His Ser Ala Gly Gly Leu Gln Asp Thr Ala Ala  
 1460 1465 1470

Asn Ser Pro Phe Ser Ser Gly Ser Ser Val Thr Ser Pro Ser Gly Thr  
 1475 1480 1485

Arg Phe Asn Phe Ser Gln Leu Ala Ser Pro Thr Thr Val Thr Gln Met  
 1490 1495 1500

Ser Leu Ser Asn Pro Thr Met Leu Arg Thr His Ser Leu Ser Asn Ala  
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Asp Gly Gln Tyr Asp Pro Tyr Thr Asp Ser Arg Phe Arg Asn Ser Ser  
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Met Ser Leu Asp Glu Lys Ser Arg Thr Met Ser Arg Ser Gly Ser Phe  
 1540 1545 1550

Arg Asp Gly Phe Glu Glu Val His Gly Ser Ser Leu Ser Leu Val Ser  
 1555 1560 1565

Ser Thr Ser Ser Val Tyr Ser Thr Pro Glu Glu Lys Cys Gln Ser Glu  
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Ile Arg Lys Leu Arg Arg Glu Leu Asp Ala Ser Gln Glu Lys Val Ser  
 1585 1590 1595 1600

Ala Leu Thr Thr Gln Leu Thr Ala Asn Ala His Leu Val Ala Ala Phe  
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Glu Gln Ser Leu Gly Asn Met Thr Ile Arg Leu Gln Ser Leu Thr Met  
 1620 1625 1630

Thr Ala Glu Gln Lys Asp Ser Glu Leu Asn Glu Leu Arg Lys Thr Ile  
 1635 1640 1645

Glu Leu Leu Lys Lys Gln Asn Ala Ala Ala Gln Ala Ala Ile Asn Gly  
 1650 1655 1660

Val Ile Asn Thr Pro Glu Leu Asn Cys Lys Gly Asn Gly Thr Ala Gln  
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Ser Ala Asp Leu Arg Ile Arg Arg Gln His Ser Ser Asp Ser Val Ser  
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Ser Ile Asn Ser Ala Thr Ser His Ser Ser Val Gly Ser Asn Ile Glu  
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 Cys Ser Arg Ala Pro Ser Gln Val Ser Ile Ser Ala Ser Pro Arg Gln  
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 Ser Met Gly Leu Ser Gln His Ser Leu Asn Leu Thr Glu Ser Thr Ser  
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 1925 1930 1935  
 Val Ser Gly Lys Thr Lys Trp Asp Val Leu Asp Gly Val Val Arg Arg  
 1940 1945 1950  
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 1955 1960 1965  
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 1970 1975 1980  
 Ser Asn Thr Ser Glu Thr Pro Glu Leu Leu Pro Cys Gly Tyr Leu Val  
 1985 1990 1995 2000

Gly Glu Asn Thr Thr Ile Ser Val Thr Val Lys Gly Leu Ala Glu Asn  
 2005 2010 2015  
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 Gln Arg Tyr Val Ser Leu Leu Ile Glu His Arg Arg Ile Ile Leu Ser  
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 Glu Ile Phe Asn Gly Leu Leu Asn Cys Lys Tyr His Lys Cys Pro Tyr  
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 Ile Ile Gly Thr Met Asn Gln Ala Thr Ser Ser Thr Pro Asn Leu Gln  
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 2195 2200 2205  
 Trp Ile Pro Lys Val Trp His His Leu Asn Arg Phe Leu Glu Ala His  
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 2225 2230 2235 2240  
 Ile Asp Val Asp Gly Ser Arg Val Trp Phe Thr Asp Leu Trp Asn Tyr  
 2245 2250 2255  
 Ser Ile Ile Pro Tyr Leu Leu Glu Ala Val Arg Glu Gly Leu Gln Leu  
 2260 2265 2270  
 Tyr Gly Arg Arg Ala Pro Trp Glu Asp Pro Ala Lys Trp Val Met Asp  
 2275 2280 2285  
 Thr Tyr Pro Trp Ala Ala Ser Pro Gln Gln His Glu Trp Pro Pro Leu

2290                      2295                      2300  
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 2305                      2310                      2315                      2320  
 Arg Glu Gly Ser Thr Ser Lys Gln Met Pro Pro Ser Asp Ala Glu Gly  
                     2325                      2330                      2335  
 Asp Pro Leu Met Asn Met Leu Met Arg Leu Gln Glu Ala Ala Asn Tyr  
                     2340                      2345                      2350  
 Ser Ser Pro Gln Ser Tyr Asp Ser Asp Ser Asn Ser Asn Ser His His  
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 Asp Asp Ile Leu Asp Ser Ser Leu Glu Ser Thr Leu  
                     2370                      2375                      2380

<210> 28  
 <211> 96  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(93)

<400> 28

agc agg gag agg gga ggg agt gtg ccg tct ctt ctg caa ggg cag tgc                      48  
 Ser Arg Glu Arg Gly Gly Ser Val Pro Ser Leu Leu Gln Gly Gln Cys

ccc agc ctc agc cac act tct gat ctg cag tcc aac aga cct ttc tag                      96  
 Pro Ser Leu Ser His Thr Ser Asp Leu Gln Ser Asn Arg Pro Phe \*

<210> 29  
 <211> 75  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(72)

<400> 29

cat gcc aaa gag aac ctg ggg gtg cca ggg ggt cct cag agc tca cac                      48  
 His Ala Lys Glu Asn Leu Gly Val Pro Gly Gly Pro Gln Ser Ser His

tgc act tgt ggc acc cac agc gag tag                      75  
 Cys Thr Cys Gly Thr His Ser Glu \*



<210> 30  
 <211> 489  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(489)

<400> 30

cca tcc gtg agc cga gga aac tgt aca cag atc tac aca gac tgg gcc Pro Ser Val Ser Arg Gly Asn Cys Thr Gln Ile Tyr Thr Asp Trp Ala	48
aat cat tac cta gcc aaa tcc ggc cac aag cgt ctc atc aag gat ctc Asn His Tyr Leu Ala Lys Ser Gly His Lys Arg Leu Ile Lys Asp Leu	96
cag caa gat gtg aca gat ggc gtc ctc ctg gcc cag att atc cag gtt Gln Gln Asp Val Thr Asp Gly Val Leu Leu Ala Gln Ile Ile Gln Val	144
gtg gca aat gaa aag att gaa gac atc aat ggc tgt ccg aag aac aga Val Ala Asn Glu Lys Ile Glu Asp Ile Asn Gly Cys Pro Lys Asn Arg	192
tcc caa atg att gaa aac ata gat gcc tgc ttg aat ttc ctg gca gct Ser Gln Met Ile Glu Asn Ile Asp Ala Cys Leu Asn Phe Leu Ala Ala	240
aag gga ata aac atc cag ggg ctg tct gca gaa gag atc agg aat gga Lys Gly Ile Asn Ile Gln Gly Leu Ser Ala Glu Glu Ile Arg Asn Gly	288
aac ctc aag gcc att cta ggc ctc ttc ttc agc ctc tcc cga tac aag Asn Leu Lys Ala Ile Leu Gly Leu Phe Phe Ser Leu Ser Arg Tyr Lys	336
cag cag cag cag cag ccc cag aag cag cac ctc tcc tca cct ctg ccg Gln Gln Gln Gln Gln Pro Gln Lys Gln His Leu Ser Ser Pro Leu Pro	384
ccc gcc gta tcc cag gtg gcc ggg gcc ccc tcc cag tgc cag gct ggc Pro Ala Val Ser Gln Val Ala Gly Ala Pro Ser Gln Cys Gln Ala Gly	432
acc cct cag cag cag gtg cca gtc act ccc caa gcc ccg tgc cag cct Thr Pro Gln Gln Gln Val Pro Val Thr Pro Gln Ala Pro Cys Gln Pro	480
cac cag cca His Gln Pro	489

<210> 31  
 <211> 31  
 <212> PRT  
 <213> Homo sapiens

<400> 31

Ser Arg Glu Arg Gly Gly Ser Val Pro Ser Leu Leu Gln Gly Gln Cys  
 1 5 10 15  
 Pro Ser Leu Ser His Thr Ser Asp Leu Gln Ser Asn Arg Pro Phe  
 20 25 30

<210> 32  
 <211> 24  
 <212> PRT  
 <213> Homo sapiens

<400> 32

His Ala Lys Glu Asn Leu Gly Val Pro Gly Gly Pro Gln Ser Ser His  
 5 10 15  
 Cys Thr Cys Gly Thr His Ser Glu  
 20

<210> 33  
 <211> 163  
 <212> PRT  
 <213> Homo sapiens

<400> 33

Pro Ser Val Ser Arg Gly Asn Cys Thr Gln Ile Tyr Thr Asp Trp Ala  
 5 10 15  
 Asn His Tyr Leu Ala Lys Ser Gly His Lys Arg Leu Ile Lys Asp Leu  
 20 25 30  
 Gln Gln Asp Val Thr Asp Gly Val Leu Leu Ala Gln Ile Ile Gln Val  
 35 40 45  
 Val Ala Asn Glu Lys Ile Glu Asp Ile Asn Gly Cys Pro Lys Asn Arg  
 50 55 60  
 Ser Gln Met Ile Glu Asn Ile Asp Ala Cys Leu Asn Phe Leu Ala Ala

65		70		75		80
Lys Gly Ile Asn Ile Gln Gly Leu Ser Ala Glu Glu Ile Arg Asn Gly						
	85			90		95
Asn Leu Lys Ala Ile Leu Gly Leu Phe Phe Ser Leu Ser Arg Tyr Lys						
	100			105		110
Gln Gln Gln Gln Gln Pro Gln Lys Gln His Leu Ser Ser Pro Leu Pro						
	115			120		125
Pro Ala Val Ser Gln Val Ala Gly Ala Pro Ser Gln Cys Gln Ala Gly						
	130			135		140
Thr Pro Gln Gln Gln Val Pro Val Thr Pro Gln Ala Pro Cys Gln Pro						
	145			150		155
						160
His Gln Pro						

<210> 34  
 <211> 479  
 <212> DNA  
 <213> mouse

<220>  
 <221> CDS  
 <222> (3)...(476)

<400> 34

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ttt gag gaa gtt cat gga tcc tcc ctg tcc ttg gtt tcc agc aca tcc Phe Glu Glu Val His Gly Ser Ser Leu Ser Leu Val Ser Ser Thr Ser	95
tcc atc tac tcc acg cca gaa gaa aaa tgc cag tca gag att cga aag Ser Ile Tyr Ser Thr Pro Glu Glu Lys Cys Gln Ser Glu Ile Arg Lys	143
ctg agg cga gaa ctg gat gcc tcc cag gaa aag gtg tct gcg ctg act Leu Arg Arg Glu Leu Asp Ala Ser Gln Glu Lys Val Ser Ala Leu Thr	191
acc cag ctg act gca aat gct cac ctt gtg gca gcc ttc gag cag agt Thr Gln Leu Thr Ala Asn Ala His Leu Val Ala Ala Phe Glu Gln Ser	239
ctg gga aac atg acc atc agg cta cag agt tta act atg acc gct gag Leu Gly Asn Met Thr Ile Arg Leu Gln Ser Leu Thr Met Thr Ala Glu	287
cag aag gat tca gaa ctg aac gag tta aga aaa acc atc gag ctg ctg	335

Gln Lys Asp Ser Glu Leu Asn Glu Leu Arg Lys Thr Ile Glu Leu Leu

aag aaa cag aat gca gct gcc cag gct gcc att aat gga gtg att aac 383  
Lys Lys Gln Asn Ala Ala Ala Gln Ala Ala Ile Asn Gly Val Ile Asn

acg cca gag ctc aac tgc aaa gga aat ggc agt gcc agg cta cag acc 431  
Thr Pro Glu Leu Asn Cys Lys Gly Asn Gly Ser Ala Arg Leu Gln Thr

tac gca tcc gca gca aca ctc ctc cga cag tgt ctc cag tat caa tag 479  
Tyr Ala Ser Ala Ala Thr Leu Leu Arg Gln Cys Leu Gln Tyr Gln \*

<210> 35  
<211> 22  
<212> DNA  
<213> mouse

<220>  
<221> CDS  
<222> (1)...(21)

<400> 35

cgc cac cag cca ctc aag tgt g 22  
Arg His Gln Pro Leu Lys Cys

<210> 36  
<211> 158  
<212> PRT  
<213> mouse

<400> 36

Glu Lys Ser Arg Thr Met Ser Arg Ser Gly Ser Phe Arg Asp Gly Phe  
1 5 10 15

Glu Glu Val His Gly Ser Ser Leu Ser Leu Val Ser Ser Thr Ser Ser  
20 25 30

Ile Tyr Ser Thr Pro Glu Glu Lys Cys Gln Ser Glu Ile Arg Lys Leu  
35 40 45

Arg Arg Glu Leu Asp Ala Ser Gln Glu Lys Val Ser Ala Leu Thr Thr  
50 55 60

Gln Leu Thr Ala Asn Ala His Leu Val Ala Ala Phe Glu Gln Ser Leu  
65 70 75 80

Gly Asn Met Thr Ile Arg Leu Gln Ser Leu Thr Met Thr Ala Glu Gln  
85 90 95

Lys Asp Ser Glu Leu Asn Glu Leu Arg Lys Thr Ile Glu Leu Leu Lys  
                   100                                  105                                  110

Lys Gln Asn Ala Ala Ala Gln Ala Ala Ile Asn Gly Val Ile Asn Thr  
                   115                                  120                                  125

Pro Glu Leu Asn Cys Lys Gly Asn Gly Ser Ala Arg Leu Gln Thr Tyr  
                   130                                  135                                  140

Ala Ser Ala Ala Thr Leu Leu Arg Gln Cys Leu Gln Tyr Gln  
                   145                                  150                                  155

<210> 37  
 <211> 7  
 <212> PRT  
 <213> mouse

<400> 37

Arg His Gln Pro Leu Lys Cys  
                                   5

<210> 38  
 <211> 19  
 <212> PRT  
 <213> artificial Sequence

<220>  
 <223> Description of the artificial Sequence: Peptide for production of AK

<400> 38

Glu Lys Gly Glu Asp Pro Glu Thr Arg Arg Met Arg Thr Val Lys Asn  
                                   5                                  10                                  15

Ile Ala Asp

<210> 39  
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<400> 39

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actctactgg gaaatggtga ggtgtttcgt gaagacaatg gcaacacaga tgaagacatg	180
cagatggagg aaataaagat ccagttgagc ttgttggcca gttggataga ggttgaggtt	240
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catgttagcc caagaagagt attcagtact tcatatccct gaaggtaaga cagagtagta	600
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